

Application No.: 10/826,342
Attorney Docket No.: 042336
Amendment under 37 CFR §1.114

REMARKS

Please reconsider the application in view of the above amendments and the following remarks.

Status of Claims

Claims 1-15 are pending in this application. Claims 1-2, 4-5, 9, 11-14 are rejected. Claims 3, 6-8 and 10 are withdrawn. Claim 15 has been newly added. By this Amendment, claims 1, 4 and 5 have been amended. No new matter has been added.

Rebuttal

On pages 4-6 of the Final Office Action, the Examiner dismisses Applicants arguments to the previous Office Action as not persuasive. Applicants respectfully **disagree** with the Examiner. As such, Applicants address each of the contentions, as raised by the Examiner, on pages 4-6 of the Action, as follows:

First, the Examiner asserts the following: “[a]pplicant states that claim 1 has been amended to make clear that ‘the line storage means may include more than one line memory having capacity for storing image data corresponding to one line,’ and that ‘the line storage means of the present invention in claim 1 stores image data corresponding to one line thereby reducing the capacity of line memory as compared to the line memory in Tsue which stores several lines of image data.’ **These two statements are contradictory.**” Applicants respectfully **disagree** with the Examiner’s allegation that the aforesaid statements are contradictory.

For example, Fig. 6 of the present specification illustrates an image processing apparatus having **one** 1-LINE LINE MEMORY 3. Fig. 11 of the present specification illustrates an image processing apparatus having **three** 1-LINE LINE MEMORY 16, 17 and 18, respectively. Each of the plurality of 1-LINE LINE MEMORY as claimed has a capacity for storing image data corresponding to one line; that is, the output image data from HORIZONTAL RESIZING CIRCUIT 2 as illustrated in Fig. 6 which corresponds to pixel data [one line] as illustrated in Fig. 9 of the present specification. For further clarification Applicants respectfully request that the Examiner read at least pages 12 and 13 of the present specification.

In other words, the image processing apparatus of the claimed invention can have plurality of 1-LINE LINE MEMORY each of which is capable of having capacity for storing image data corresponding to **one line**. Therefore, contrary to the Examiner's allegations, there is no contradiction because the capacity for each 1-LINE LINE MEMORY is reduced since each 1-LINE LINE MEMORY is only required to support a capacity for pixel data that has been horizontally resized as shown in at least Fig. 9B of the present specification.

Moreover, in order to further clarify the scope of the claimed invention, Applicants herein amend claim 1 by replacing the phrase "at least one line memory" with the phrase "at least one 1-line line memory" in order to further distinguish the claimed invention from the cited art.

Second, with regard to claim 1, the Examiner also contends that the "m2 line portion image shift buffer" illustrated in Fig. 1 of Tsue is "one line memory having capacity for storing image data corresponding to one line." Applicants could not **disagree** more.

To disprove the Examiner's contention, Applicants set forth below the relevant portion of the Tsue, paragraph [0068] that explicitly **teaches away** from having *a line storage means including at least one 1-LINE LINE MEMORY having capacity for storing image data corresponding to one line along the first direction of the image data outputted from the first resizing means.*

“[, according to the image process [in Tsue]: **an image data Sm1** (small blocks of image data) having **a portion of m1 lines** required for the magnification process to be performed in the direction X is read out from the pre-readout cache buffer B1; **this image data Sm1** is then subjected to the magnification process in the direction X (step S4); and **the processed image data Sm1 is temporarily stored in an image shift buffer B2 [m2 LINE PORTION IMAGE SHIFT BUFFER]** (step S5)[.] Upon the storage in the image shift buffer B2 of **the number of lines m2 of image data** required for the performance of the magnification process in the direction Y, the image data Sm2 composed of **a number of lines m2** is read out and subjected to the magnification process in the direction Y (step S6).”

Therefore, as noted above, Tsue discloses an m2 LINE PORTION IMAGE SHIFT BUFFER (B2) **which stores a number of lines m2 of image data.** Moreover, modifying Tsue in the manner proposed by the Examiner would render Tsue unsatisfactory for its intended purpose because Sm1 image data in X direction will not correspond to Sm2 image data in Y direction causing mismatch the resolution of the image in magnification process.

Last but not least, with regards to claim 1, the Examiner also contends that “the line buffer [Fig. 2A, 232] shown by Ke is ‘one line memory having capacity for storing image data corresponding to one line’.” Applicants **disagree** with this as well.

As disclosed in column 5, lines 29 to 47 and illustrated in Fig. 2A, the secondary reference of Ke discloses a line buffer (232) which stores graphics data from the preceding line. However, unlike the line memory of the present invention in claim 1, the line buffer (232) does not have the capacity to store image data corresponding to one 1-LINE LINE MEMORY because the vertically adjacent pixel from the previous line (Y_p) are stored in buffer 232 as 5 MSBs (most significant bits) of its original 8 bit value, for e.g., line buffer of 5 X 640 bits.

Claim Rejections - 35 U.S.C. § 112

The Examiner has rejected claims 1-2, 4-5, 9 and 11-14 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, the Examiner contends the following: “the line storage means only stores one line of horizontal image data, yet the second resizing means acquires "image data" from the line storage means [how?].”

Applicants have amended claim 1 in order to further clarify the scope of the claimed language.

As to claim 4, the Examiner contends the following: “during the "thinning out," what is being thinned out?”

To overcome this rejection, Applicants have amended claim 4 by replacing “thinning out” by “thinning-out pixels,” which finds support in at least Fig. 8B of the present specification.

As to **claim 5**, the Examiner contends the following: “the added average is based on an added average of what?”

Applicants have amended claim 5. The support for this amendment may be found in at least Fig. 8A.

Because the scope of claims 1, 4 and 5, as amended, can be ascertained with reasonable certainty when read in light of the specification, applicants submit that claims 1-2, 4-5 and 11-14 particularly point out and distinctly claim the invention. Accordingly, applicants requests that the rejection under 35 U.S.C. 112, 2nd paragraph, be withdrawn.

Claim Rejections - 35 U.S.C. § 103

The Examiner has rejected claims 1-2, 4-5, 9 and 11-14 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication Number 2002/0122198 filed by Tsue et al (“Tsue”) in view of U.S. Patent Number 6,094,226 issued to Ke et al (“Ke”). Applicants respectfully traverse.

Independent claim 1

Claim 1 , as amended, calls for ... *a line storage means including at least one 1-line line memory having capacity for storing image data corresponding to one line along the first direction of the image data outputted from the first resizing means; and a second resizing means for resizing in a second direction intersecting said first direction with using image data of the block to be resized, outputted from said first resizing means and image data of a block adjacent to the block to be resized, acquired from said line storage means.*

Applicants assert that no disclosure or suggestion at all can be found in either one of the cited prior art with respect to a specific construction of the line storage means and the second resizing means which are clearly disclosed in amended claim 1.

Because neither Tsue nor Ke disclose or suggest *a line storage means including at least one 1-line line memory having capacity for storing image data corresponding to one line along the first direction of the image data outputted from the first resizing means; and a second resizing means for resizing in a second direction intersecting said first direction with using image data of the block to be resized, outputted from said first resizing means and image data of a block adjacent to the block to be resized, acquired from said line storage means*, Applicants submit that the claims 1-2, 4-5, 9, 11-14 and new claim 15 would not have been obvious over these references. Accordingly, Applicants request that the rejection under 35 U.S.C. § 103 be withdrawn.

Dependent claim 4

Claim 4, as amended, calls for *wherein said first resizing means resizes said image data based on a thinning-out pixels in the first direction.*

On page 5 of the Office Action, the Examiner contends that “[because] pixel thinning is not in the claim [], there is no basis for reading pixel thinning into the claim.” Claim 4 has been amended to recite “thinning-out pixels.”

Furthermore, on page 4 of the Office Action, the Examiner contends that Ke reference discloses "a thinning out in the first direction" in col. 5 lines 8-1 5. Applicants disagree because

Ke does not disclose pixel thinning. Instead, Ke discloses a weighted average implementation as described on column 5, lines 9-10. Because the proposed combination of the aforesaid references do not teach or suggest all of the claimed elements and limitations in claim 4, Applicants submit that claim 4 would not have been obvious over these references. Accordingly, Applicants request that the rejection under 35 U.S.C. 103 be withdrawn.

Dependent claim 5

Claim 5, as amended, calls for *wherein said first resizing means resizes said image data based on an added average of a number of adjacent pixels in the first direction.*

On page 6 of the Office Action, the Examiner contends that “[because] ‘outputting an average number of adjacent pixels as illustrated in at least Fig. 8A and described on at least page 11 of the present application’ is not in the claim and there is no basis for reading this limitation into the claim.” Claim 5 has been amended to recite “*an added average of a number of adjacent pixels in the first direction.*”

Furthermore, on page 4 of the Office Action, the Examiner contends Ke discloses “an added average in the first direction” in column 5. Applicants respectfully disagree with the Examiner. The added average refers to the technique for outputting an average of a number of adjacent pixels as illustrated in at least Fig. 8A and described on at least page 11 of the present application. This is **completely different** from a weighted average implementation of Ke because weighted average implementation uses pre-designated coefficients for scaling as illustrated in Table 1 of Ke reference.

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Because the proposed combination of the aforesaid references does not teach or suggest all of the claimed elements and limitations in claim 5, Applicants submit that claim 5 would not have been obvious over these references. Accordingly, Applicants request that the rejection under 35 U.S.C. 103 be withdrawn.

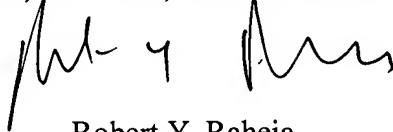
Conclusion

The claims have been shown to be allowable over the prior art. Applicants believe that this paper is responsive to each and every ground of rejection cited in the Office Action in the Action dated May 12, 2008, and respectfully request favorable action in this application. The Examiner is invited to telephone the undersigned, applicants' attorney of record, to facilitate advancement of the present application.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



Robert Y. Raheja
Attorney for Applicants
Registration No. 59,274
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

TEB/RYR/adp/dlt